

FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

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EDITORIAL COMMENT.

"Livelihood" on the Belgian Coast. A couple more aviation records have during the past week been put to the credit of our Royal Naval Air Service, by the raids in flights of 34 and 40 machines respectively, against the strongholds on the Belgian coast which the Germans are so strenuously building up. Invaluable as these raids are to our side, and moral-shaking as they must be to the enemy, they are probably but the rehearsals for and the forerunners of future raids on a much more extended scale, in fact, leading up to that grand scheme to which we referred last week as likely to have been long since elaborated by those guiding the operations of the Allies on the Continent. Our advice then given to malcontents who were dissatisfied with the general trend of our fifth arm's aggressiveness, to "wait and see," has not imposed much tax upon their patience for a start. And we would once again repeat this advice in regard to further developments.

Both attacks have had practically the same objectives, viz., the fortified places along the Belgian coast-line extending from beyond Nieuport as far as Zeebrugge, and with the exception of there being a matter of six additional machines in the second raid, the tactics were

in both cases the same. During the last, however, for the first time, we believe, regular skirmishing methods were adopted by the employment of a covering flight of eight French aviators, who with their bombs kept the German aviators sufficiently busy at the Ghistelles aerodrome (which lies inland about five miles from Ostend) to prevent them rising to the attack and attempting a movement for cutting off our naval officers upon their return journey. From a strategic point of view these attacks are of great importance, as although it is very difficult to ascertain with accuracy the actual damage done by our bombs, from observation by the pilots themselves and from information gleaned from outside sources there is little doubt that grave mischief resulted from both of these massed raids. As to the moral effect, this can hardly be overrated, as it brings home to the enemy that wherever and whatever they build up in the shape of battery emplacements, ammunition stores, submarine shops, &c., these are at any moment open to similar attack, with possibilities of such destruction as to render impossible the permanent holding of their positions. Most of the points attacked are without question of the greatest importance to the Germans in their scheme of future tactics, as they cover the intricate network of canals and harbours behind the coast line, by means of which, no doubt, the Germans hope to feed their fleet of submarines and mine strewers which this week are to start on their career of piracy.

The sight, during the start of the first raid, of so many machines flying over the Straits of Dover at one time, must have been an inspiring one, and taken by itself is one of the most striking illustrations of the wonderful progress that has been made in heavier-than-air flight in the few years that have elapsed since Blériot made the first successful cross Channel flight.

Not even the enemy himself can take exception to the work undertaken by our flying officers, for it is avowedly planned with an exclusively military object—the destruction of submarine bases and establishments which were being prepared either for an attack on Great Britain or on the shipping both of this and neutral countries. So far as the Allies are concerned, the moral atmosphere of the war has been kept clean, in marked contrast to the enemy, who has shown an entire contempt for all previously understood rules of warfare.

These excursions will also convey to the people of the cities and towns in the neighbourhood of the Rhine that the arm of the British flying services is long, and that it may in the not far distant future be utilised to exact extra

reprisals should there be any more raids on unfortified places such as have taken place on our East Coast.

One of the most satisfactory features of the raid is that every one of the pilots and observers, although exposed to heavy fire from rifles, anti-aircraft guns and mitrail-leuses, succeeded in returning safely. It is true that in the first raid two out of the thirty-four machines were damaged, but this is a small price to pay for an under-taking which, while associated with considerable risk, was so rich in its material, as it must have been in its moral, effect.

The raids, while forming another instance of the marked efficiency of the British flying services over those of the enemy, also bring into strong relief our methods of working on purely military lines, as against the woeful destruction of non-combatants as practised by the Germans. This is fully appreciated by neutrals, and especially so in America, where very glowing tributes have been paid in the American press. In striking contrast to the German expeditions to England, the fact is commented on that the attacks of the British flying officers were directed against fortified submarine stations. American military critics are also reported to have expressed the opinion that such a large fleet of aeroplanes, piloted by men who know how to handle them, would be more than a match for any Zeppelin invasion of England. One American writer goes so far as to state that "it is clear that any squadron of German war vessels engaged in a descent upon the English coast would have to reckon with the efficiency of the men 'who are now asserting their mastery of the air as well as of the sea.' Indeed, one of the surprises of the war, from the American stand-point, has been the skill and audacity of the British aviators and the speed and stability of their machines."

It is not only in their capability as pilots that our officers are demonstrating their increasing and marked success; it is also in their offensive work that they are excelling anything yet done by the enemy, as each week fewer bombs are being wasted, and more are hitting their mark, showing that whether it be for observation or attacking work, our officers can be relied upon to get home on their quarry.

One result of these raids emerges, as we always felt that it would, viz., that air attacks are more effective *en masse* than when only one or two aeroplanes are operating together, as by assailing the enemy at a number of points simultaneously he becomes completely distracted, and by degrees our ascendancy in the mastery of the air is further asserted.

Before the end of the war, even the great work which has already been accomplished by our flying services will probably sink into insignificance beside what is likely to eventuate in the next few months. There is the possibility, as we suggested last week, that the aeroplane will ultimately prove to be the natural and most effective enemy of the submarine. And we shall look forward with considerable interest to developments in this direction, having regard to the fool blockade which is supposed to come into being on Thursday of this week. In the meantime the eulogistic references to the Royal Flying Corps in Sir John French's latest despatch must be a source of congratulation to all those who in the past have so consistently believed in and strenuously fought for the building up of this arm of our forces to the highly efficient state which it has now attained. To elaborate the references by Sir John French would be to spoil them, and the following single extract should be sufficient to open the pockets of every

thinking person for the purpose of subscribing to the Flying Services Fund which is now in active operation under the auspices of the Royal Aero Club. Sir John French's words are as follows:—

"The Royal Flying Corps has again performed splendid service. Although the weather was almost uniformly bad and the machines suffered from constant exposure, there have been only thirteen days on which no actual reconnaissance has been effected. Approximately, one hundred thousand miles have been flown.

"In addition to the daily and constant work of reconnaissance and co-operation with the artillery, a number of aerial combats have been fought, raids carried out, detrainments harassed, parks and petrol depôts bombed, &c."

Beyond the tribute paid to the Royal Flying Corps in the Commander-in-Chief's despatch the following significant paragraphs form part of the early general remarks in this document:—

"To cause anything more than a waste of ammunition long-range artillery fire requires constant and accurate observation; but this most necessary condition is rendered impossible of attainment in the midst of continual fog and mist.

"Again, armies have now grown accustomed to rely largely on aircraft reconnaissance for accurate information of the enemy; but the effective performance of this service is materially influenced by wind and weather."

* * *

Arising out of this raid, and adventures of a similar character carried out by the German fleet, we recently advocated our following the example of Russia in treating those who participate in such dastardly work as criminals, and when captured to let them stand their trial at the criminal court in the same way that an ordinary murderer of women and children, or a burglar, has to submit to. No doubt the position of the German General Staff is becoming desperate, and accordingly they are indulging in desperate deeds in every phase of their operations, but their desperation does not justify the entire abolition of all international and civilised laws. It seems therefore anything but a satisfactory outcome that the Prime Minister last week in replying to a question emanating from Lord Charles Beresford upon the subject, stated that he was not prepared to make any general statement; each case as it came along must be decided on its merit. The exact wording of Lord Charles Beresford's question was as follows:—

"Whether His Majesty's Government would, for the future, treat German raiders from the air and sea, when captured, as pirates, and publicly hang them for the murder of women and children in undefended places, when proved guilty of that crime after trial by court-martial, instead of treating them as honourable foes."

Parliamentary replies are, of course, always of a guarded nature, but in this case we feel that a bold declaration should have been forthcoming that the perpetrators of any further hostile raids over non-military parts of our country would, if caught, be tried for murder or attempted murder, and, if found guilty, condemned to the punishment the law of the land provides for such crimes. So long as the Huns confine their attacks to points that are in accordance with all written and unwritten laws of warfare as military stations, we can offer no objection to whatever they may attempt to do, but such piratical raids as the Germans have so far indulged in merit only one punishment—the handing over to the hangman of all who are caught in the act and are found guilty of killing civilians who have not the right to protect themselves against an armed and uniformed foe.

It is hardly possible for us to say what the opinion of their fellow prisoners would be, but from a British point

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FROM ABOVE.—A view of Eastbourne taken about a year ago from Mr. Fowler's Henry Farman hydro-aeroplane. This snap was secured by an amateur when about 400 ft. up, it being his first experience of flying.

of view the soldier or sailor who has in honest battle been unfortunate enough to fall into the enemy's hands, being housed together with men who have been associated in such uncivilised acts, would we fancy, be resented and treated as an insult to their honour. It is to be hoped that the question will be further pressed, and that a more definite assurance will be given that Great Britain will fall into line with the Russian Government in its treatment of the perpetrators of these atrocities.

The Aerial Raid on the East Coast.

Although the public generally have, in the rush of other happenings in the war, more or less forgotten the recent air raid on the East Coast, there are many who are not content to let the episode and its surrounding events be disposed of so easily. It must be remembered that one of the greatest difficulties aircraft have to contend against is operating at night, and therefore any pre-arranged plan of signals by lighting becomes of paramount and vital importance to our enemies. Many assertions have been made as to the assistance which was given to the raiders on British soil by spies in motor cars, and although the assertions have been officially brushed aside, there are those who are more persistent in their endeavours to prove the existence of some of these fraternity in our midst, and moreover bring forward fairly consistent evidence in justification of their persistency. Amongst these is Mr. Holcombe Ingleby, M.P., who is far from satisfied with the statement of the Home Secretary in the House of Commons, to the effect that all motor cars on the move in the district upon the night of the raid have been satisfactorily accounted for, and Mr. Ingleby therefore comes to the attack again in a letter to the Press. In this he explains that he was not able to be in the House when the Home Secretary answered the question by Sir William Bull upon the subject. Mr. Ingleby's indictment is certainly a strong one, and in the interests of the country it should receive the most careful consideration, as it is of the utmost importance that every precaution should be insisted upon to minimise the effects of any further adventures of a similar character which the Germans may think it worth while to indulge in. Mr. Ingleby puts his case as follows:—

"Let me first test the value of the Home Secretary's statement that there were eight cars traced by the Norfolk Constabulary about the time of the raid and satisfactorily accounted for. The constabulary were singularly blind that night. There were no less than six cars in different parts of Snettisham at the time mentioned, three of which were open to the gravest suspicion. Of these three the constable saw nothing. Similarly, the constable stationed at Heacham, where two bombs fell, informed me that after 6.30 p.m. no car passed through that place. As a matter of fact, two cars visited the lower part of the village, one immediately before and one immediately after the raid, and both excited suspicion. Again, within 20 minutes of each other three cars dashed through Brancaster Staith, which is ten miles distant from Heacham, the last one closely followed by the Zeppelin. The audacity of the occupants of

that car passes belief, but in order that the statement of the witness I am about to quote may not be brushed aside too lightly, I ought to explain that the Zeppelin, whilst over Brancaster Staith, was flying very low, scarcely higher, as another witness states, than the telegraph wires. And I may as well here say that all my statements are based upon the evidence of what I believe to be perfectly credible witnesses. Here is the statement referred to:—

"On that particular night I was in my home in Brancaster Staith. About 10 p.m. I heard a Zeppelin passing over the house. It remained some minutes above the field adjoining, as if uncertain about something. A motor car with the most brilliant headlights imaginable then rushed along the road from Deepdale towards Brancaster, and when by the side of the field mentioned above the occupants in the car all shouted very loudly, and two small lights were flashed as a reply from the Zeppelin. Then the latter travelled off after the motor car. I saw the headlights and heard the shouting, but did not see the two lights from the Zeppelin, as I was in the front of the house; but the lights were seen by other occupants of the house. . . . My observations were those of many people in Brancaster Staith.

"When it is remembered that the night was very still and that the Zeppelin (as remarked to me by witnesses in other parts of the county) occasionally shut off her engines, I submit there is nothing incredible in this statement.

"I have a number of letters before me giving evidence of the presence of motor cars that night in various parts of the county, but it is unnecessary to belabour that portion of the evidence. Correspondents from all parts of the county speak of seeing a motor car with extraordinarily powerful lights in different places followed by an airship and sometimes throwing up flashes. A well-known and much-respected farmer living on the land high above Snettisham Church speaks to seeing flashes of light sent up from six different parts in the neighbourhood, and he has forwarded me a diagram giving the approximate position of the Zeppelin as judged by the noise of her engines, and the spots whence the flashes proceeded. Another farmer, also perfectly trustworthy, gives evidence of a powerful light on the other side of Snettisham being directed on the church a moment before the dropping of the bomb. There are eight credible witnesses who can speak to the flashes that proceeded from 'Sixpenny Hole' and attracted the Zeppelin to the church. The car that threw these flashes went off by a narrow side lane, which no one who could avoid it would take by night. This car reappeared at the turning into Dersingham, and there threw up what appeared to be a definite signal—two upward flashes and one cross flash. At the turning by the church, which leads directly to Sandringham, it threw up more flashes. Similar evidence is forthcoming from the other districts from west to east, right up to the suburbs of Norwich. What a strange series of coincidences are required to explain the circumstance that a powerfully lighted motor car constantly preceded the Zeppelin in its journeyings through Norfolk that night! And can anyone suggest a reason why the sober inhabitants of Norfolk should be found rushing about the county at a particular moment bombarding the heavens with flashes?

"Many of us have a great admiration for our Norfolk Constabulary, who are a fine set of men, and do their duty to the best of their ability. They are usually, however, planted at night in the main streets of our villages, and there is no need for anyone on devilry bent to trespass on their beat. They saw nothing of motor cars on the night of the raid, and they are not willing to accept evidence that they cannot personally verify. I was so afraid that the Under Secretary of State for War, relying on their evidence, might give a wrong answer to the question I put to him in the House on Monday last, that I called at the War Office on the previous Saturday and produced certain evidence for his guidance, if necessary. Indeed, a suggestion, which I accepted, was made to me that an officer should call and examine the evidence in my possession. In the meanwhile the Home Secretary has rushed in with a statement which ought not to have been made until that evidence was tested. Had such been the case, I feel sure his answer to Sir William Bull's question would have been on entirely different lines."

Beware of Spies.

AN official announcement was issued by the Admiralty on Tuesday to the effect that information had been received that two persons, posing as an officer and sergeant, and dressed in khaki, are going about the country attempting to visit military works, &c.

They have been making enquiries as to the presence or otherwise of anti-aircraft guns, and Government contractors and others are warned not to admit persons to

their works, &c., unless notice has been received beforehand of their coming.

The Roll of Honour.

IN the list of casualties in the Expeditionary Force issued on Sunday there was the following note:—

Officer previously officially reported Missing, now unofficially reported Not Missing.

Lieut. W. C. K. Birch, Royal Flying Corps.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

IN the despatch dated February 8th, from an "Eye-witness" present with the British General Headquarters, published on Saturday last, there was the following reference to the work of aircraft:—

"On Friday, the 5th. The day was fine, and the aircraft of both sides were correspondingly active. One of our aviators chased a German aeroplane all the way from a point behind the centre of our line to the neighbourhood of Lille, where, after a fight at close quarters in mid-air, in which both machines were hit several times, the German descended hurriedly some two miles short of his aerodrome."

In a despatch, dated February 11th, from "Eye-witness" issued on Monday, there was the following:—

"Wednesday, 10th February, was a very bright clear day with little wind, and the interest centred on warfare above rather than on the earth. A large number of aircraft on both sides hovered over the battle line, and there were many encounters, in which our airmen maintained their usual superiority. The importance of this superiority can be imagined, for it means not only that the enemy finds it difficult to discover the dispositions and movements going on behind our line, but also that his artillery is compelled to work entirely by the map instead of by direct observation. His gunners can, of course, tell by the map the exact distance of the target, but the range to be given the gun is a factor which varies with the condition of the atmosphere and the wind, and therefore cannot be definitely ascertained without direct observation, and even after the most careful calculations have been made, there is a possibility of error about this method, which there is no chance of correcting. There

is also a discouraging sense of uncertainty as to the effect produced.

"The Germans have recently shown a desire to disabuse our Allies of the idea that they are maltreating prisoners. A few days ago an aeroplane dropped several notices in French not far from our lines. The translation is as follows:—

"'French soldiers! The very prevalent idea in your ranks that French prisoners are shot by the Germans does not conform with the truth.

"'Quite the contrary, they are absolutely well treated by the Germans.'

"Unfortunately for Germany, the evidence as to the treatment in many cases of prisoners of war and the wild threats made in the Press to starve them in case of a shortage of food, are not likely to remove the impression conveyed by this notice "Qui s'excuse s'accuse."

The following announcement was issued by the Admiralty on the evening of the 12th inst.:—

"During the last 24 hours combined aeroplane and seaplane operations have been carried out by the Naval Wing in the Bruges, Zeebrugge, Blankenberghe, and Ostend districts, with a view to preventing the development of submarine bases and establishments. Thirty-four naval aeroplanes and seaplanes took part. Great damage is reported to have been done to Ostend Railway Station, which, according to present information, has probably been burnt to the ground; the railway station at Blankenberghe was damaged, and railway lines were torn up in many places.

"Bombs were dropped on gun positions at Middelkerke, also on the power station and German mine-



Major-General Sir David Henderson, who is in command of the Royal Flying Corps at the front, in touch with his staff "somewhere in France." General Henderson, seated in the back of the Rolls-Royce car, is just speaking to Lieut. Thurstan.

sweeping vessels at Zeebrugge, but the damage done is unknown. During the attack the machines encountered heavy banks of snow. No submarines were seen. Flight-Commander Grahame-White fell into the sea off Nieuport and was rescued by a French vessel. Although exposed to heavy gun fire from rifles, anti-aircraft guns, mitrailleuses, &c., all pilots are safe. Two machines were damaged.

"The seaplanes and aeroplanes were under the command of Wing-Commander Samson, assisted by Wing-Commander Longmore, Squadron-Commanders Porte, Courtney, and Rathborne."

The following was issued by the Admiralty on Tuesday evening:—

"The Air operations of the Naval Wing against the Bruges, Ostend-Zeebrugge District have been continued. This afternoon 40 aeroplanes and seaplanes bombarded Ostend, Middelkerke, Ghisteltes, and Zeebrugge. Bombs were dropped on the heavy batteries situated on the east and west sides of Ostend Harbour; on the gun positions at Middelkerke; on transport wagons on the Ostend-Ghisteltes road; on the Mole at Zeebrugge, to widen the breach damaged in former attacks; on the locks at Zeebrugge; on barges outside Blankenberghe; and on trawlers outside Zeebrugge.

"Eight French aeroplanes assisted the naval machines by making a vigorous attack on the Ghisteltes Aerodrome, thus effectively preventing the German aircraft from cutting off our machines. It is reported that good results were obtained.

"Instructions are always issued to confine the attacks to points of military importance, and every effort is made by the flying officers to avoid dropping bombs on any residential portion of the towns."

In the French *communiqué* issued at midnight on Tuesday, it was stated:—

"A French aeroplane squadron bombarded a German aviation park at Ghisteltes. An English aviation squadron bombarded Ostend."

In Wednesday afternoon's *communiqué* it was stated:—

"In spite of an intense cannonade, the French and British airmen who threw bombs yesterday in the region of Ghisteltes and Ostend were able to return unharmed to our lines."

In the despatch from Field-Marshal Sir John French, dated February 2nd, and issued on Tuesday last, there were the following references to the work of aircraft:—

"2. . . . Again, armies have now grown accustomed to rely largely on aircraft reconnaissance for accurate information of the enemy: but the effective performance of this service is materially influenced by wind and weather. . . .

"8. During the period under report the Royal Flying Corps has again performed splendid service. Although the weather was almost uniformly bad and the machines suffered from constant exposure, there have been only 13 days on which no actual reconnaissance has been effected. Approximately, 100,000 miles have been flown. In addition to the daily and constant work of reconnaissance and co-operation with the artillery, a number of aerial combats have been fought, raids carried out, detrainments harassed, parks and petrol depôts bombed, &c. Various successful bomb-dropping raids have been carried out, usually against the enemy's aircraft material. The principle of attacking hostile aircraft whenever and wherever seen (unless highly important information is being delivered) has been adhered to, and has resulted in the moral fact that enemy machines invariably beat

immediate retreat when chased. Five German aeroplanes are known to have been brought to the ground, and it would appear probable that others, though they have managed to reach their own lines, have done so in a considerably damaged condition."

In the bi-weekly report from Sir John French issued on Tuesday night, it was stated:—

"5. In spite of bad weather, our aircraft have carried out their accustomed tasks with conspicuous success. An aviator discovered a hostile ammunition column near La Bassée and dropped a bomb on it, blowing up an ammunition wagon."

In a *communiqué* issued by the Russian Great General Staff on the 9th inst., it was stated:—

"Our aviators dropped bombs on German trains near Rava Nowidwor and on troops in the region of Sochitze."

An official note issued in Paris on the 10th inst., stated:—

"Near Cagny a French aviator destroyed a signal balloon. Near Verdun a German aeroplane was brought down. The pilot, Lieutenant von Hidelen, was the aviator who in September last distinguished himself by throwing bombs and proclamations on Paris, the latter inviting the citizens to surrender to the German armies marching victoriously on Paris."

In the French official *communiqué* issued on the afternoon of the 11th was the following:—

"In the northern region there were several aviation sorties on both sides. The projectiles dropped by the enemy's aeroplanes into our lines had no effect."

In the French *communiqué* issued on Saturday afternoon it was stated:—

"Ten aeroplanes flew over the Verdun district. The bombs they dropped did no damage."

The following note was issued by the French Ministry of Marine on Sunday:—

"During last week seaplanes of the French navy, from the centre recently established at Dunkirk, threw bombs successfully on military buildings and assemblages of the enemy's troops at Zeebrugge, and bombarded the railway station at Ostend."

In the official *communiqué* issued in Paris on February 10th, dealing with the operations from January 27th to February 6th, it was stated:—

"Even in foggy weather our avions have made flights over the enemy's lines; in Alsace on January 31st, one of our aviators, flying over the clouds, took advantage of a sudden breaking of the fog to bombard the station at Lutterbach."

"On January 29th, towards 10 p.m., an avion dropped four bombs on the quarters of staff officers at Ostend. A few days afterwards news arrived that three German officers had been killed by one of the bombs. On Feb. 1st, a night bombardment of Ostend from a height of only 1,100 metres took place."

"On Jan. 20th a night reconnaissance was carried out in the vicinity of La Fere and Laon. The lights in the camps were put out at the approach of the avions. One of these descended to 500 m. in order to fly along the German trenches, on which it dropped eighteen bombs. On Jan. 27th we struck an artillery park and a great assemblage of the enemy to the north of Lille."

"On Jan. 30th four bombs were dropped on Hom-bourg Castle in Alsace, a German general head-quarter, eight on the station at Honnenbruch. Six bombs were dropped on Jan. 30th on the station at Pagny and fourteen on the 31st. On Feb. 1st the station at

Lutterbach was heavily bombarded. On Feb. 2nd our aerial projectiles struck an important transformer for the electric power, which is supplied to the vicinity of Mulhouse. On Feb. 15th, a visit was paid to the aviation sheds at Habsheim.

"When the weather is clear and calm our aviators frequently encounter some of the enemy's aeroplanes. In no case have the French avions failed to put the German machines to flight. As a rule the Aviatik turns about as soon as he sees his adversary. Occasionally the Germans are compelled to fight. A good example of such a fight was given by one of our aviators in the vicinity of Cernay on Feb. 2nd. In the course of a reconnaissance he gave chase to an Aviatik, and forced it twice to turn round, preventing it from flying over our lines. Just as he was about to land at the aerodrome he caught sight of another German machine flying in the

direction of Belfort, and immediately set off in pursuit, forcing it to turn back. He then overtook it, and exchanged a violent fusillade at a distance of 150 metres, continuing the pursuit up to the vicinity of Mulhouse. The German machine was forced to land before it could reach its own ground.

"On Jan. 31st an avion was forced by engine trouble to cross the enemy's lines at a height of only 150 metres in the hilly country round Hartmanswiller-Kepf. In spite of a lively rifle fire from the woods the aviator was able to reach the Thur valley, and landed in our lines safe and sound.

"To the already considerable German losses during the last ten days must now be added an Aviatik captured on Jan. 29th, north of the Meurthe between Luneville and Raon-l'Etape, and a machine brought down on Feb. 4th near Verdun."

THE CAPTURE OF SQUADRON-COMMANDER BRIGGS.

THE Secretary of the Admiralty, on Tuesday night, announced that the following communication has been received by the American Ambassador in London:—

"Embassy of the United States of America, Berlin,
January 26th, 1915.

"Sir,—With reference to the statement which is reported to have appeared in foreign newspapers to the effect that the British Flight Officer Edward Briggs, upon his landing at Friedrichshafen, was beaten by a German officer with a riding whip until he bled, I have the honour to transmit to you herewith a statement signed by Mr. Briggs, which the Imperial Foreign Office requests may be brought to the attention of the British Government.—I have the honour to be, Sir, your obedient servant,

(Signed) "JAMES W. GERARD."

"Fort VIII, 14-12, 1914.

"By order of the Governor of the Fortress of Ingolstadt, the military judge and the sworn-in military clerk, accompanied by the Ersatz-reservist Alfred Frankel, who figured as interpreter, went on December 14th, at ten o'clock, to Fort VIII., belonging to the fortress of Ingolstadt, to interrogate the prisoner of war, Edward Briggs.

"To begin with, the interpreter Frankel was sworn in according to instructions. Briggs appeared, and declared as follows:—

"My name is Edward Featherstone Briggs.

"I have held the rank of Squadron-Commander in the Naval Flying Corps since the commencement of the war. Before my capture on November 21st, 1914, I was in command of the flight which left Belfort. I received orders to attack the Zeppelin works at Friedrichshafen. In execution of this commission I found myself, on November 21st, 1914, in my two-seated biplane, without a passenger, above the Zeppelin Halls at Friedrichshafen. At a height of about 100 metres above these works my petrol tank was holed, which forced me to land. I also got a light grazing shot, causing a slight wound over the right ear, which bled. I had to descend quite near the sheds.

"I landed without damage on the level ground adjoining the sheds. After the landing my biplane remained on the level ground. Immediately after the landing a German soldier, at a distance of about 40 metres, fired five times at me, but did not hit me; I then lifted up my hands, and several persons, both military and civilian, came up to me as I sat strapped in the biplane. I was released from my belt, and was then dragged out. During this latter operation the top part of my body was bent forward with my face looking downwards towards the ground. In this position I received a heavy blow on the crown of my head, which I strongly felt

through my flying cap. This blow did not cause insensibility or bleeding. I presume that the blow which was given me with such strength was administered by the butt of a rifle. This blow had been delivered presumably by a soldier of the rank, as I had seen only such carrying rifles. To judge by the sword, and in consequence of what I was told subsequently, there was a German officer amongst the crowd, who rushed towards me. The last time I remember seeing this person he was at about a distance of 40 metres from me.

"As I had been entirely dragged out from the biplane, and stood on my legs again, I was placed between two soldiers, who held me by each arm. At my back there was an excited crowd, who apparently wanted to rush on me. I was led immediately by the soldiers to the guardhouse, situated a few minutes' walk away. I remained in the guardhouse about half-an-hour, and an English-speaking German here gave me water to drink. This English-speaking German and two soldiers took me subsequently to the hospital at Friedrichshafen in a motor car.

"This former visited me the following day at the hospital, and took the opportunity of telling me that the officer who was coming along when I landed probably saved my life. He also informed me that this officer stood between me and the crowd after I had been dragged out of the biplane, and threatened to shoot anyone who would lay hands on me. I have had read to me a publication in the *Matin*, dated November 27th, 1914, which contained the following words:—

"It is considered to be the height of cowardice that a German officer flogged (drawing blood) the shot-down aviator, Edward Briggs."

"To this I declare that neither the German officer who was present at the landing, nor any other German officer, has laid hands on me, not to mention flogging me with a horsewhip, since I was dragged out of the biplane.

"Previously I had received only a single blow, namely, that one mentioned above, which was presumably made by the rifle butt; as a matter of fact, I did not see who administered the blow, as at this time I was being dragged out of the biplane with my face towards the ground. But I declare once more that, in view of the reasons above-mentioned, it is quite improbable that an officer administered this blow, besides which it is my personal opinion that a German officer would consider such an act as stated in the *Matin* beneath his dignity, as would an English officer.

"I give this declaration without the least compulsion or pressure being imposed on me. The questions and answers have been translated into English.—Read, approved, and signed,

"EDWARD BRIGGS."

✱ ✱

were rescued by fishermen, and later were permitted to return to Germany.

It was also reported from Rotterdam that a German seaplane came down on the Engelschman Plaat, a sand-bank midway between Schiermonnikoog and Ameland, but as the lifeboat crew which went out in response to their signals of distress could not promise that they would not be interned, the two officers, who were very exhausted from exposure, refused to leave the machine. Five hours later, in response to further distress signals, the lifeboat went out again, but found the bank submerged and no signs of the machine or its occupants.

Switzerland Demands an Apology.

A *communiqué* issued by the Swiss Federal Political Department on Monday, stated that an inquiry has proved that the aeroplane that flew over Swiss territory near Beurnesve, and which was fired at by Swiss troops, was a German machine. The Federal Council has instructed the representative of the Confederation in Berlin to demand an apology from the German Government.

German Seaplanes Lost.

ACCORDING to reports from Copenhagen, a German seaplane, while flying to Heligoland, capsized off the Island of Mano on Saturday afternoon. Two officers

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

ANNUAL GENERAL MEETING.

The Annual General Meeting of the Members of the Royal Aero Club of the United Kingdom will be held on Tuesday, March 23rd, 1915, at 5 o'clock, at 166, Piccadilly, London, W.

Notices of Motion for the Annual General Meeting must be received by the Secretary not less than twenty-one days before the Meeting, and must be signed by at least five Members. The last day for the receipt of notices of motion is Tuesday, March 2nd, 1915.

Committee.

In accordance with the rules, the Committee shall consist of eighteen Members. Members are elected to serve for two years, half the Committee retiring annually. Retiring members are eligible for re-election.

The retiring Members of the Committee are:—
Griffith Brewer. Flight Commander F. K. McClean,
Ernest C. Bucknall. R.N.A.S.
John D. Dunville. Alec Ogilvie.
Col. H. C. L. Holden, C.B., Mervyn O'Gorman, C.B.
F.R.S. C. F. Pollock.
Prof. A. K. Huntingdon.

Any two Members of the Club can nominate a Member to serve on the Committee, provided the consent of the Member has been previously obtained. The name of the Member thus nominated, with the names of his proposer and seconder, must be sent in writing to the Secretary not less than fourteen days before the Annual General Meeting. The last day for the receipt of nominations is Tuesday, March 9th, 1915.

A ballot paper for the election of nine Candidates to the Committee of the Club will be forwarded to each Member at least seven days before the date of the Annual General Meeting.

Aviators' Certificates.

The following Aviators' Certificates have been granted:—

- 1073 Viscount Exmouth (Maurice Farman Biplane, Royal Flying Corps, Shoreham). Jan. 25th, 1915.
- 1074 Flight Sub-Lieut. Richard Cecil Petter, R.N.A.S. (Grahame-White Biplane, Grahame-White School, Hendon). Feb. 11th, 1915.
- 1075 Flight Sub-Lieut. Eustace de Courcy Hallifax, R.N.A.S. (Grahame-White Biplane, Grahame-White School, Hendon). Feb. 11th, 1915.
- 1076 (Hydro-Aeroplane) Ralph Oliver Lashmar (N.A.C. Seaplane, N.A.C. School, Lake Windermere). Feb. 11th, 1915.
- 1077 Flight Sub-Lieut. James Edward Baker Bere Maclean, R.N.A.S. (Bristol Biplane, Royal Naval Air Station, Hendon). Feb. 12th, 1915.
- 1078 Flight Sub-Lieut. Harris Holberton Square, R.N.A.S. (Bristol Biplane, Royal Naval Air Station, Hendon). Feb. 12th, 1915.
- 1079 Flight Sub-Lieut. Gerald William Hilliard, R.N.A.S. (Grahame-White Biplane, Grahame-White School, Hendon). Feb. 12th, 1915.
- 1080 Walter Laidler (L. and P. Biplane, London and Provincial School, Hendon). Feb. 12th, 1915.
- 1081 Flight Sub-Lieut. Christopher Eric Wood, R.N.A.S. (Grahame-White Biplane, Grahame-White School, Hendon). Feb. 12th, 1915.

THE FLYING SERVICES FUND.

Administered by The Royal Aero Club.

The Lords Commissioners of the Admiralty and the Army Council having signified their approval, the Royal

Aero Club has instituted and will administer a fund originated by M. André Michelin for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependents of those who are killed.

The fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers and men.

In view of the great utility of the work of the Flying Services, evidence of which has been repeatedly given in the official despatches of the Commander-in-Chief, the skilful and daring flights into enemy country, and the protection afforded by the continuous patrolling of our coast by aircraft, it is confidently expected that the British public will welcome this opportunity of showing their appreciation by subscribing promptly and liberally to the fund.

The Right Hon. Lord Kinnaird has kindly consented to act as Honorary Treasurer to the Fund.

Subscriptions should be forwarded to The Flying Services Fund, The Royal Aero Club, 166, Piccadilly, London, W., or to Barclay and Co., Ltd., 1, Pall Mall East, London, S.W. Cheques should be crossed "Barclay and Co., Ltd."

TULLIBARDINE, Brig-General,
Chairman of the Royal Aero Club.

	£	s.	d.		£	s.	d.
Total Subscriptions received to February 10th, 1915	5,865	18	6	K. L. S.	0	2	0
A. H. Edwards	0	2	6	Miss F. M. Taylor	1	1	0
Arthur H. Wolseley	1	1	0	Miss C. Taylor	1	1	0
Charles Sedgwick	0	10	0	Lieut. A. Ruthven-Stuart	5	0	0
G. Kerry Rix	1	0	0	William N. McClean	50	0	0
White and Thompson, Ltd.	21	0	0	Lieut.-Col. C. F. Call	5	0	0
C. E. Heath's Syndicate	26	5	0	W. A. Hutchence	0	2	6
The Excess Insurance Co.	26	5	0	Miss F. Ward	0	2	0
Bray, Gibb and Co., Ltd.	26	5	0	D. A. Merion-Smith	0	2	6
Harry Turrill	0	15	0	The Motor Radiator Manufacturing Co.	5	5	0
Mrs. Martin	0	10	0	Miss H. J. Firth	1	1	0
Lewis E. Richards	0	5	0	A. J. W. Black	0	10	6
Mrs. M. Neal	0	2	0	Miss L. Hodgson	0	2	6
Anonymous	1	1	0	Mrs. L. A. Clifford	0	10	6
S. J. Phillips	5	5	0	Miss S. Wetherell	0	5	0
G. Holt Thomas	100	0	0	Emil Fuchs	0	5	0
				O. Paul Monckton	5	5	0
				Total, February 17th, 1915	£6,152	0	6

The Grahame-White Aviation Company are very kindly arranging a Flying Meeting to be held at the London Aerodrome, Hendon, in aid of the Flying Services Fund. The date of the Meeting will be announced shortly.

166, Piccadilly, W. B. STEVENSON, Assistant Secretary.

FROM THE BRITISH FLYING GROUNDS.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Four Grahame-White biplanes were in use last week for pupils under the instruction of Messrs. Manton, Russell and Winter. The pupils were Probationary Flight Sub-Lieuts. Ferrand (new pupil), Irving, Reed, Tollemache.

Figures of eight or circuits alone were carried out by Probationary Flight Sub-Lieuts. Hilliard, Hallifax, Petter, Souray, Wood.

Probationary Flight Sub-Lieuts. Hilliard, Hallifax, Petter and Wood secured their certificates during week.

Beatty School.—Pupils out during last week receiving

instruction on two-seater machines, fitted with the controls in duplicate under instruction of Mr. Geo. W. Beatty and G. Virgilio.

Monday and Tuesday weather too bad for school work.

Wednesday, Messrs. P. E. Cornish (15 mins.), G. Beard (25), B. de Meza (10), M. J. V. Miller (10), A. G. Hayward (8), Gerrit Forbes (8), H. H. Bright (5), F. R. Laver (10), J. H. Moore (15), P. Cooper (15).

During the afternoon Mr. Roche-Kelly took out the new *brevet* machine and gave a good exhibition of flying,



Copyright, F. N. Birkett, from the F.N.B. Series of Aviators. Probationary Flight Sub-Lieut. F. Digby, R.N., who has taken his certificate at the Grahame-White School, Hendon.

including some very fine *vol planés* and banking. Afterwards Mr. G. Merton took over the machine and made a number of fine flights lasting 30 mins.

Thursday, Messrs. G. Beard (25 mins.), T. F. Roche (15), Gerrit Forbes (10), H. H. Bright (5), and Monfea (5). Mr. G. Merton out on the *brevet* machine, putting in a lot of flying during the day, making in all flights totalling 64 mins.

Friday, Messrs. G. Beard (15 mins.), T. F. Roche (15), B. de Meza (10), M. J. V. Miller (5), Gerrit Forbes (14), H. H. Bright (15), Vickers (7), Leong (10), B. B. Lewis (10), and Lieut. Rimington (15).

Week-end weather too bad for school work.

Hall School.—Monday and Tuesday last week, blowing a gale.

Wednesday, fair. McConnochie two, Lieut. Moncrieff four, J. Furlong two passenger flights each with Instructor J. Rose. Later pupils having solo practice (in full control of machine):—Furlong 16½, McConnochie 24, Lieut. Moncrieff 48 mins. each on No. 3 tractor biplane.

Thursday, fair. Flights with instructor: Lieut. Moncrieff two. Pupils having solo practice in tractor 3:—Messrs. Waterson (12 mins.), McConnochie (25), Furlong (9), Lieut. Moncrieff (16). J. L. Hall testing *brevet* tractor No. 4.

Friday, fair. Pupils having solo practice with full control:—Messrs. A. Davy (17 mins.), Waterson (8), McConnochie (18), Lieut. Moncrieff (25).

Saturday, gale and rain. Instructors for week:—J. Rose and J. L. Hall. McConnochie doing circuits.

London and Provincial Aviation Co.—Wednesday, last week, school out 8 a.m. Test flight, M. G. Smiles, 10 mins.; Messrs. Noakes, Bransby Williams, Lincoln, England Derwin and Moore straights; Mr. Laidler circuits.

Thursday, school out 7.45 a.m. Test flight, M. G. Smiles, 10 mins.; Messrs. Moore, Lincoln and England Derwin straights, all making rapid progress; Messrs. Noakes and Bransby Williams half circuits; Mr. Laidler circuits, now ready for *brevet*.

Friday, school out 7 a.m. Instructor, M. G. Smiles, Mr. Laidler, circuits and eights, then flew for certificate, which he obtained in excellent style, finishing with a very fine *vol plané* from 800 ft. Messrs. Lincoln, White, England Derwin, straights; Messrs. Noakes and Bransby Williams circuits; Mr. Moore half circuits.

Ruffy-Baumann School.—Monday last week Instructors, E. Baumann, James Brothers. Out on 60 Caudron test flight. On same machine, Mr. Kenworthy up twice 25 mins., Mr. King 12 mins.

Wednesday, Mr. Kenworthy, 23 mins. and 10 mins. on 60 Caudron, dual control. Messrs. Blandy, Jackson, and Brown, three new pupils, up 6 mins. each.

Thursday, Mr. Kenworthy out. Mr. King (16 mins.), Jackson (15), Mr. Brown (15) on 60 Caudron, flying all the time at 3,000 ft.

Friday, Mr. Kenworthy 16 mins. on 60 Caudron, and 20 mins. on 45 Caudron. Mr. King (16 mins.), Mr. Blandy (10), Mr. Brown (10). In addition several passengers were taken up on the 60.

On Saturday and Sunday, too bad for school work; rain and wind.

Northern Aircraft Co., Ltd.

The Seaplane School, Windermere.—During last week a lot of excellent flying was got in. On Monday, Thursday, and Friday work was continued all day long. On Thursday Mr. R. O. Lashmar went in for his *brevet* tests, and completed them in splendid style, going up to 940 feet and handling the machine with real discretion.

Monday, Mr. W. R. Ding gave instruction to Messrs. G. L. Railton (45 mins.), A. Johnson (62), R. Buck (54), and S. J. Sibley (46). Mr. Lashmar up for practice flight. Mr. Ding out for stunting practice.

Thursday, Mr. Ding out with Railton, Johnson, Buck and Sibley, giving them full and partial control. Mr. Lashmar went in for and secured his *brevet* as notified above, and also made practice flight. Mr. Ding out testing.

Friday, Mr. Ding gave instruction to Railton, Johnson, Buck and Sibley.



Fatal Accident in Germany.

ACCORDING to information received in Amsterdam, a military biplane fell near Potsdam on the 5th inst., the pilot, Sergeant Kopke, being killed instantly, while the observer, Capt. Schmidt, died an hour later from his injuries.

Double Fatality in Japan.

ACCORDING to the *Japan Weekly Mail*, Mr. Tsunesaburo Ogita, together with his assistant, Mr. Ohashi, were killed on Sunday, January 3rd. They had started from Fukakusa drill ground, at Kyoto, to fly towards Osaka, and five minutes afterwards the aeroplane fell at Inariyama, and both occupants were instantly killed.

EDDIES.

FROM Mr. J. Lloyd Williams, of whom it was reported in "Eddies" the other week that he had obtained his ticket after 163 minutes of flying, comes a letter in which he points out that the actual time was 1 hr. 52 mins., which is a good way further on towards record. As the figures I gave were those supplied by the Hall Aviation Co., they have shown considerable modesty in stating the flying time to be nearly an hour longer than what they were actually entitled to claim. Excellent as would have been the performance had the time been as first stated, as now amended it is even more creditable, and it would appear as if Lieut. N. Pemberton-Billing will have to look to his laurels. I am, of course, referring to those which he won in acquiring his certificate, and not to those which he may be and probably is now collecting.

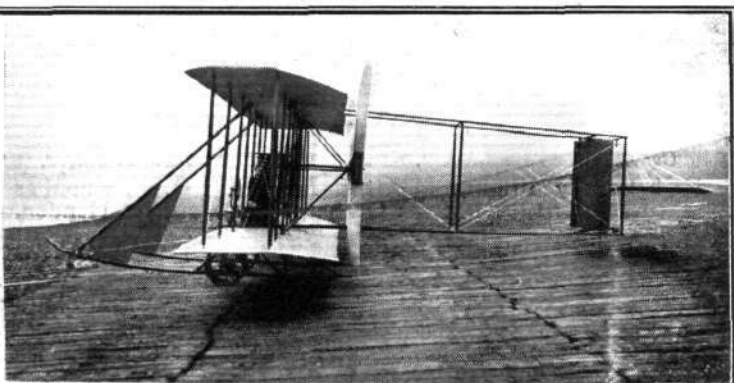
x x x

As it is by no means an easy matter to obtain reliable news from Germany, the following items sent me by a friend who is fortunate enough to enjoy the privilege of living at present in a neutral country, may be of interest. Firstly, he mentions the following appeal, which was, my friend says, printed in one of the German aeronautical journals, and shows to a certain extent the German point of view, which it is extremely difficult by any stretch of imagination to synchronise, not only with our

and his wife, were killed by a stray shell in their villa in the early part of the war. Georg Chatel founded the Aviatik firm in 1909 in connection with the well-known German pilot Emil Jeannin, and under his direction the firm developed from a small private concern into a large limited company. Jeannin severed his connection with the Aviatik firm in 1912, and started a factory of his own at Johannisthal.

x x x

As regards the Aviatik works at Mulhouse, the following confirmation of the transference of these works from the danger zone is worthy of note. The German military authorities were quick in realising the dangerous location of the Aviatik firm, and with the typical thoroughness that characterises most German undertakings, had considered all eventualities. On the first day of mobilisation the unsuspecting directors of the Aviatik firm received the following laconic communication:—"Your works will be transferred to—to-night." In the afternoon fifty railway trucks arrived, thirty of which were quickly loaded by military aid with machines in various stages of construction, whilst materials, stores, tools and machinery were loaded on the remaining twenty trucks. That same night the train arrived at its destination on the other side of the Rhine, and as



Two views of the new Beatty Wright biplane, which is now becoming very popular as a *brevet* machine. Copyright, F. N. Birkett, from the F.N.B. Series.

own, but with what has now been pretty conclusively proved to be actual facts:—

"German pilots! Russian spite and French superciliousness have forced the war on us, this war which we only wage for our existence, for our future, and which we shall end victoriously.

"German pilots! What we have long suspected is now become certainty. Envy of the progress of our industry, and hatred of the higher intelligence of the German race (*sic*) have long threatened us. In their conceited blindness the French have put all their faith in their aircraft.

"German pilots! Also this illusion is to be taken from them! Only one feeling has now room in our hearts: revenge for the sneaky attack (!), revenge for the blood that must flow, revenge for the tears of our wives and children !!!"

x x x

My correspondent also informs me that as a reward for meritorious services in reconnaissance flying, the well-known German pilot Hellmuth Hirth has been promoted to Lieutenant, and that Georg Chatel, founder and director of the Automobile and Aviatik Co. of Mulhouse,

the new works were already fitted up with electric current, transmission, &c., all that remained was to put the machinery in its place and couple up, and work is said to have been resumed the next day. The output is stated to be three machines a fortnight, which figure hardly seems in keeping with the smartness exhibited in removing the works, but may be accounted for by the probability that a considerable number of the workmen employed at the factory at Mulhouse were unwilling to be transferred to the "wrong" side of the Rhine.

x x x

A new Wright biplane of somewhat different design from the usual type has been completed recently at the Beatty school at Hendon. The new machine, which is fitted with a 50 h.p. Gnome, is intended for the use of pupils when making their test flights for their certificate. Those who have been fortunate enough to have a spin on her agree that she handles very nicely and wants very little attention, except in very rough weather. The chief departure from standard Wright practice is to be found in the arrangement of the struts and spars. Instead of joining the front row of struts to the leading edge of the

main planes, they are joined to a front spar placed some distance behind the leading edge. In other respects the new *brevet* biplane follows standard Wright practice.

x x x

In addition to this machine, one or two more Wright biplanes are now being erected in the Beatty sheds, incorporating some innovations. The, roughly speaking, rectangular struts usually found in Wright machines are being replaced by struts of a better streamline section, with the idea of considerably increasing the speed. Another improvement is that instead of the flexible hinge attachment of the struts to the spars, the new Beatty Wrights will have sockets of a more orthodox type, with the bolt passing through the spars.

x x x

I hear that Mr. C. W. Graham, who, it will be remembered, made his *début* into the flying world some time ago by a short but exciting flight on "Lizzy," has now taken his ticket, and a very good one at that. The effects of that first flight, or rather of the landing with which it ended, necessitated some few weeks spent in hospital. That is to say, as far as "Lizzy" is concerned, as Mr. Graham himself came out of his little "spill" perfectly unhurt. Following a thorough overhaul at the Hall works, "Lizzy" was put in trim again, and after about two hours' actual practice in the air, Mr. Graham obtained his *brevet* on Friday last. I am told by people who are daily watching pupils go through their tests that Mr. Graham's was an exceptionally good one, his flying being extremely steady (and I should imagine that one has to have "hands" to fly "Lizzy"). The *vol plané* took the form of a half spiral, and he landed without the suspicion of a bump. It may be remembered that on the occasion of Mr. Graham's first memorable flight, I ventured the prophecy that he would some day make a very good pilot, as he was evidently made of the right stuff, and it now seems that my prophecy is in a fair way to coming true.

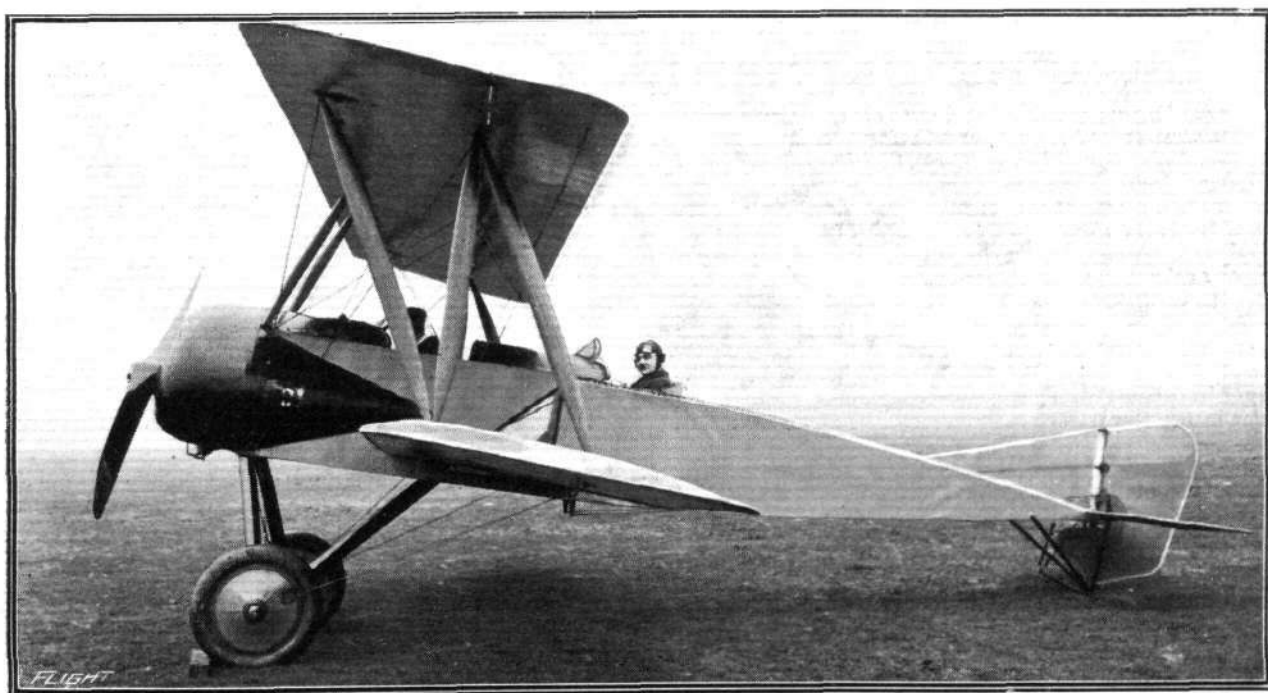
A chatty letter is to hand from Mr. F. G. Dunn, who writes from France, and who will be remembered by many as a pilot at the Grahame-White school at Hendon in the days before the war. At least I presume that he is writing from France, as his letter is dated somewhat vaguely "Abroad, February 2nd, 1915." Dunn and Reginald H. Carr are both in the same Flight, flying 100 h.p. Le Rhone-Morane parasols. Dunn is now flying his third, and says that he will soon have to get a new one, as the machines wear out very quickly owing to the fact that they have to be left out in the open most of the time. He is teaching some other pilots to fly the Morane parasol, among whom is Mr. Corbett Wilson, who will be remembered for his flying on his Blériot monoplane, both in this country and in France. They are evidently busy times in France just now, as Dunn incidentally mentions that he has done as much as seven hours a day for over a week, and that they are not all joy rides either is evident from the fact he has had bullets right through the petrol tank as well as through the floor of the *fuselage*, not to mention numerous holes in the wings.

Regarding other well-known pilots at the front, he writes that Verrier is still in hospital, whilst Noel is flying somewhere near Soissons. Guillaux, who, it may be remembered, came within an ace of winning the Aerial Derby in 1912 on the little Caudron monoplane, is now testing Moranes.

x x x

It appears that the honour of obtaining the *brevet* in the shortest time is a much coveted one. In this connection I am reminded that Mr. J. R. Howett, who is now in the R.F.C., and has been out at the front for nearly three months, obtained his ticket at the Grahame-White school at Hendon in May last, after 2 hours 24 mins. actual practice in the air. It should also be noted that at the time Mr. Howett was only 17½ years old.

"ÆOLUS."



Copyright, F. N. Birkett, from the F.N.B. Series.

The Grahame-White tractor biplane which was originally designed for the seaplane circuit of Britain, and which has now been fitted with a chassis for use over land. It was flown by Mr. Manton—who is seen in the pilot's seat—a short time ago, and proved very fast. One or two minor alterations were, however, found to be desirable, and when these have been effected the machine will be out again.

THE FLYING SERVICES FUND.

THE subscriptions to this Fund are not coming along as fast as might be expected, having regard to the almost dominating factor which aviation in this war has proved itself to be. With this week's list published under the Royal Aero Club's Official Notices [the total to date is £6,152, amongst the latest contributions being Mr. G. Holt Thomas £100, Mr. W. N. McClean £50, Messrs. Bray, Gibb and Co., Ltd., Messrs. C. E. Heath's Synd. and the Excess Insurance Co., 25 guineas each, whilst again there are a few very welcome amounts ranging from 2s. upwards. In addition, the Grahame White Co. have generously offered to arrange for a Flying Meeting at Hendon Aerodrome on a date to be announced later, for the benefit of the Fund.



Mr. Richards' scale model Nieuport.

Suggestions as to ways and means of helping to swell the Fund should be very acceptable, and we shall be pleased to give prominence in these columns to feasible schemes.

In this connection we have received from Mr. Lewis E. Richards, of Pendeen, South Lowestoft, the following communication:—

"The 'Flying Services Fund.'—A Suggestion.

"Amongst the many models I have made, and fortunately still possess, is a scale model 'Nieuport,' which is readily adaptable as an exhibition working model.

"My idea is to connect a small electric motor to the shaft and so arrange the mechanism, that when a coin is dropped into a special receptacle, it will give a few revolutions to the tractor-screw. Elaboration could be provided by movement of the various controls, &c.

"The complete model would be mounted on a suitable stand, and preferably be displayed, accompanied with a poster, in the establishment of any leading local tradesman.

"The whole of the amount thus accumulated would, of course, go towards the 'Flying Services Fund.'

"It occurs to me that there is a large field in this direction throughout the country, and with this end in view, it would be interesting to have your opinion on the subject.

"This would most certainly arouse public interest, and probably be the means of very considerable revenue. Let us suppose, for instance, that some fifty models were thus doing duty, and they averaged, say, £2 each, a very modest estimate. Surely this would prove a useful contribution?

"However, I merely make the suggestion.

"Now, who's for it?"

There would appear to be the germ of a very good idea in Mr. Richards' letter, and we should like to hear from any of our readers who would be willing to work with our correspondent (of course through the Royal Aero Club) in putting the scheme into practice. If carried out efficiently it not only would be the means of adding to the Fund, but it would serve as an excellent method of drawing the public's attention to the Fund and its objects, and thereby interest many who might very materially assist.

In the meantime let those who have not already sent in their individual subscriptions make a good resolve, and add their names to the list for publication in next week's FLIGHT.

A good example was set the other night at a special dinner and concert held at Murray's Club, when every diner contributed 5s. towards the Fund, whilst a substantial collection was made by the many distinguished artists who provided the excellent programme. This is a lead which lends itself to many occasions and elaborations, and we shall hope to record many efforts in similar directions.

THE BRITISH AIR SERVICES.

UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

THE following was announced by the Admiralty on the 10th inst. :—

Capt. and Brevet Major E. L. Gerrard, R.M.L.I., to be Temporary Lieutenant-Colonel while holding the rank of Wing Commander in the Royal Naval Air Service. To date Dec. 31st, 1914.

Capt. C. E. H. Rathborne, R.M.L.I., to be Temporary Major while holding the rank of Squadron Commander in the Royal Naval Air Service. To date Dec. 31st.

THE following was announced by the Admiralty on the 12th inst. :—
Vyvyan D. Drury has been entered as Probationary Flight Sub-Lieutenant, and appointed to the "President," additional, for the Royal Naval Air Service. To date Feb. 11th.

THE following appeared in a supplement to the *London Gazette* issued on the 13th inst. :—

Temporary Capt. John N. Fletcher (Lieutenant Royal Engineers) to be temporary Major whilst employed as Squadron Commander Royal Naval Air Service. Dated Feb. 14th, 1915.

THE following was announced by the Admiralty on the 15th inst. :—
R. A. J. Warneford and R. M. Everitt have been entered as Probationary Flight Sub-Lieutenants, with seniority of Feb. 10th,

and both appointed to "President," additional, for Royal Naval Air Service.

F. G. D. Hards has been entered as Probationary Sub-Lieutenant for temporary service, with seniority of Feb. 10th, and appointed to "President," additional, for Royal Naval Air Service.

Sub-Lieut. D. Harries promoted to the rank of Lieutenant, with seniority of Feb. 15th, and appointed to "President," additional, for training at Farnborough Airship Station, as Acting Flight Lieutenant.

Royal Flying Corps (Military Wing).

THE following appeared in a supplement to the *London Gazette* issued on the 10th inst. :—

The undermentioned appointments are made :

Flying Officers: Second Lieut. E. G. S. Walker, Special Reserve, and Second Lieut. F. W. Polehampton, Special Reserve. Dated Jan. 1st, 1915.

THE following appeared in the *London Gazette* issued on the 12th inst. :—

The undermentioned appointment is made :

Flying Officer: Lieut. A. J. L. Scott, Sussex Yeomanry, Territorial Force. Dated Feb. 1st, 1915.

Special Reserve. Supplementary to Regular Corps.—The undermentioned to be Second Lieutenants (on probation): Frank Widenham Goodden and Robert Hobart Mayo. Dated Feb. 13th, 1915.

THE following appeared in a supplement to the *London Gazette* issued on the 13th inst. :—

Special Reserve. Supplementary to Regular Corps.—Second Lieut. (on probation) Julian P. Inglefield is confirmed in his rank.

THE ZEPPELIN QUESTION.

THIS week we continue the article by Mons. Georges Prade on the Zeppelin question published in *Le Journal*, the first part of which appeared in our last issue. In this M. Prade discusses the rôle of the Zeppelins and the means of attack and defence. He proceeds as follows:—

"How are the Zeppelins equipped? What are their means of attack and defence? And what means of attack and defence against Zeppelins are at our disposal?"

"There is, first of all, one point on which it is, I think, useful to throw some light. Six months of war have proved the absolute uselessness of the Zeppelin to the army properly speaking. As an engine of offence or of observation at the front it can only work in day-time, and, over lines where rifles, machine guns, and cannon are situated, it is immediately brought down. The experiences at Badonvillers and Warsaw are conclusive.

"At a time when we are bringing down on an average fifteen German aeroplanes a month, although they only measure 7 metres in length and 13 metres span, and fly at 105 kiloms. per hour at a height of over 2,000 metres, a Zeppelin measuring 156 metres long, 19 metres in height, and 15 to 16.5 metres in width, presents a splendid target, almost too good.

"There remain for the Zeppelins, then, only two rôles: Distant observation over the sea and bombardment of towns.

"Over the sea and lost in the clouds, it can observe from afar the fleet of the enemy, follow the ships, and discover an open channel, either by direct observation of mines, a very difficult operation except under certain exceptional conditions of lighting, or by following the route of the enemy's ships through their mine-fields by a collective and simultaneous observation. Finally, it can communicate the movements of every ship in the North Sea by wireless. The real rôle of the dirigible is over the sea.

"While overland observation of scattered and sheltered units requires detail, and therefore long, attentive, and close observation, which will expose the observer to fire, the observation over the sea of known silhouettes of ships, gives immediately the exact force of the adversary. The superiority in speed of the dirigible, about 10 knots over cruisers, and 15 knots over battleships, renders this task comparatively easy.

"But their great work, extra to the war as the Germans enthusiastically think of it, is the aerial bombardment of open towns. Germany at this moment is evidently seeking for a result to communicate to its population, which is a little amazed at seeing the triumphant days of August terminating now in war bread, in famine, in monopolisation of grain, and in the publication of interminable casualty lists.

"The announcement of bombs dropped on the inhabitants of London or Paris, who eat white bread, would facilitate the digestion of these somewhat heavy mixtures.

"As regards believing that Germany would hesitate a single instant for fear of universal reprobation, one would have to be very naïf to believe that. Antwerp, Yarmouth and Warsaw are already in evidence in advance. And after all, what is it compared with the menaces on the ground? More civilians have been massacred in Dinant alone than in the whole aerial war.

"In addition, there is the absolute necessity for Count Zeppelin, and his adherents and financiers, of doing something to justify the hopes, and the already considerable sacrifices sanctioned before the war, and the even more considerable ones during the war. Something has to be done. Something like 160,000,000 francs has been expended, and 60 persons have been killed. This works out at about 250,000 francs per head, which is a little expensive.

"Who will have the honour of preference, France or England? It is difficult to say. England has very good chances. The German dream is that she should be made to feel the horrors in her own island, they being enraged at not being able to reach her there; and besides, in spite of appearances, it is easier, thanks to the almost deserted sea, over which they can fly low, and throw out very little ballast, to go to London than to Paris. The hangars at Brussels and Antwerp are as close to London as those at Metz, Namur and Maubeuge are to Paris. It is no use to the Germans to be at Laon. The Zeppelin hangars which have been constructed there would quickly be discovered and exposed to destruction by our avions, as they are situated in their habitual zone of reconnaissance.

"The technical problem is more difficult to solve as regards Paris, which is defended by an army that has to be taken into account, necessitating starting and remaining at a high altitude, and avoiding the network of trenches with their anti-aircraft guns, and finally on account of the numerous flotillas of aeroplanes. This does not mean that we shall not have the honour of choice if there is any choice. The German dream would evidently be to choose both capitals.

"Let us, therefore, turn our attention to ours. We shall do it with great reserve as regards our resources of defence, the reason for which will be apparent.

"Our technical study of the Zeppelins has caused us to eliminate all fantasies of flying boats and of carrying aeroplanes on board. As means of attack, they only possess the bombs which they throw. As means of defence, they only carry machine-guns of 37 mm. calibre. The reality has confirmed these calculations. Nobody has ever seen a Zeppelin otherwise equipped.

"There can be no doubt that if ever such a raid is attempted, it will be at night. Everything indicates it. It was so at Antwerp, at Nancy, at Warsaw, and on the English coast. A Zeppelin heading for Paris in the day-time would not get within 30 kiloms. of the capital. The night is the only possible time, but a night attack imposes the following conditions: They have to cruise at a great height and without noise, they cannot use their searchlights until the minute they drop the bomb; they must run away as soon as the bomb has been thrown; they must retire from the road to Paris, and not only to the German lines but to the hangars far behind the lines once they have been signalled. In case of several units that are unable to start from the same point for want of a sufficient number of hangars grouped together, they cannot rely upon one another and work together; they cannot be accompanied by aeroplanes, the noise of which would give away the presence of the Zeppelin, even with the most silent engines. At the most, aeroplanes can cover their retreat, and in this case they must not arrive too soon or they would reveal their presence, nor too late. Finally, the silence of the Zeppelin motors is not absolute, far from it, and in the calm of the night thousands of ears are listening. A Zeppelin, even when cruising high, is easily visible if the sky is clear, and thousands of eyes are watching. If it flies above the clouds in order to hide from view, how can it correct its course for drift caused by the wind? If the weather is moist, or if it rains, the Zeppelin will weigh 500 kilogs. more when it arrives over Paris than it did when it departed from Germany. Then there are gales, the moon, and fogs. Therefore it is not impossible, but it is very difficult all the same, so much more as there are in addition a few little surprises regarding which we may be permitted to be discreet. Besides, don't let us forget that, whilst the effect must above all be moral, every unsuccessful attempt is a painful defeat. It is easier to understand in view of this examination why no raid has yet been attempted.

"The bombs, as we have already said, have up to now been of very mediocre quality, and of even more mediocre effect. Fourteen attacks by dirigibles in six months, during which period five to ten Zeppelins were destroyed and sixty men of the crew captured, have resulted in the death of 160 civilians. It is possible that the Germans have later on got better aerial projectiles. It is certain that up to now they have dropped the best they had, and this is the result. All the rest is pure imagination. There's a long step to tumble down capitals.

"Two enemies threaten the Zeppelin. Cannon and machine-guns on the ground, and counter attack by aeroplanes in the air. My readers will understand that it is absolutely impossible for me to furnish any details regarding our cannon. The Germans need have no illusions in this respect. Their Krupp aircraft guns, their 35 and 45 calibre 75 mm. guns, their 35 and 45 calibre 88 mm. guns, their 71 mm. automobile guns, their 104 mm. and their 120 mm. guns fire with an elevation of 60° to 75° and to a height of 4,000 metres, explosive shells and smoke shells weighing 5.8, 6.5, 9.5, 15.5, and 24 kilogs., at the rate of 10 to 25 shots per minute. The 65 mm. Düsseldorf guns have a projectile weighing 4 kilogs., and the 50 mm. ones weigh 2.4 kilogs.

"Our artillery is very superior, both as regards precision, speed, and quality of projectiles, especially in the lighter pieces. A Krupp shrapnel should give 625 fragments. This means to say that a Zeppelin, once it is hit, is brought down. It will not tumble down at the first shot, but it will descend in an inclined plane, and in view of the distance from Paris to the German lines, it will be captured with its crew.

"Against the cannon, the Zeppelin has no other defence than to attempt to pass unobserved in spite of searchlights, in spite of its bulk and noise, and in spite of the little surprises indicated above. Therefore, the necessity of flying as high as possible, and of carrying 6,000 kilogs. of ballast, in order to reach a height of 2,000 metres. Against the machine-gun, which can only fire to a height of about 1,800 metres, the Zeppelin has its motors armoured. A hundred ordinary bullet-holes in the envelope would necessitate repairs, but would not deflate it immediately. A French non-rigid dirigible without partitions, pierced through and through by a

77 mm. shell, which failed to explode, was able to make a return trip of 40 kiloms. back to its hangar.

"The cross-braced metal hull of a Zeppelin will cause every bomb that is in the least sensitive to explode. The time fuze shell, set to explode at a given height, which is easily determined by the apparent dimension of this silhouette of known length, arc, moreover, to be used exclusively. As regards lighting up the skies in order to direct the fire, this is to-day child's play.

"Against aeroplanes the Zeppelin defends itself by running away and by machine-guns. The maximum speed of the great Zeppelins being about 72 kilom. per hour, all our aeroplanes would gain on it at the rate of 30 to 40 kilometres per hour, some of them even by 50. The great thing is never to lose sight of it, but it should be noted that if it leaves Paris we know where it has gone. Flying at night time is a thing with which to-day our aviators are quite familiar.

"It is not impossible that a squadron of Zeppelins might pass in spite of all difficulties, but it is difficult to admit that it could ever return without having to give battle. And in case of battle it would be at least partially destroyed.

"The machine-guns which are carried on a Zeppelin would not be very dangerous to an aeroplane. Its gunners would have no more chance of hitting an aeroplane in a vital spot than one would have from another aeroplane. But it would be necessary to get to close quarters, as evidenced by experience. On the other hand, what a fine target for certain projectiles of a somewhat special nature would be this section of 2,688 sq. metres. Besides, it is possible that the machine-guns carried on top for defence against attack from above have been abolished. There has been talk of regrettable incidents; a balloon set on fire by a machine-gun. The dirigibles captured in Russia had in every case only two or three machine-guns on board, which would be only just sufficient for the equipment of the nacelle. Our pilots will take care to go and see, and having seen, they'll set to work. They have now the necessary

offensive weapons. There again, only the sudden attack could succeed.

"The whole thing then resolves itself into one question, Can the Zeppelins pass unobserved? The most important question is to note and signal their appearance. From this moment on the problem is solved, and I shall conclude with the following data: *Can the Zeppelins get to Paris or London?* By day, no. By night, it is possible that they will come, but in small numbers, and I think that they will attempt to come.

"*Will they be signalled before they arrive?* There is every reason to believe it, but it is naturally impossible to state definitely. Every precaution has been taken in this respect.

"*Can they throw projectiles?* Within the restrictions indicated above, yes, but they can only do so in passing, already in flight, without aim; and the quality of the projectiles dropped on previous occasions of bombardment are not of a dreadful nature.

"*Will they be attacked and destroyed?* There is every chance that they will be attacked on the outward journey, and it is almost certain that they will be attacked on the return journey. All chances are against them in an aerial battle.

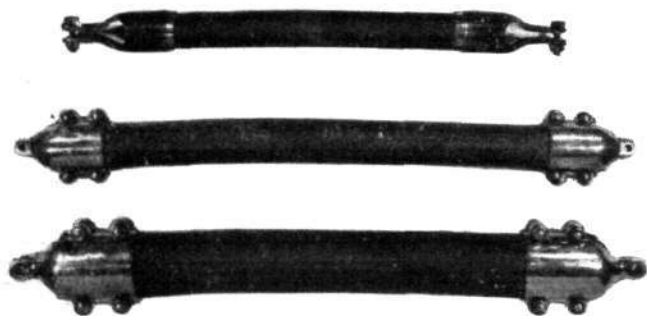
"The risks, not only material but moral, of such an expedition therefore appear frankly greater than the slight, purely moral, advantages that our enemies might gain from it.

"Taking it altogether, it is much less dangerous than the smallest epidemic or even than a simple flood. Motor cars, actually at the front, caused the violent death of 397 people in Paris in 1913. The Zeppelins are far less formidable. And yet, who ever thought of being afraid of the autos? The German aeroplanes were more to be feared during the month of August than are the airships of the old Count. We guarded against the first by keeping smiling; it is far less difficult to defend oneself against the others. It is because I am convinced that they will come that I go to sleep quietly. Our fathers, during the siege of 1870, saw similar things without thinking themselves heroes."



AIRCRAFT ACCESSORIES.

MANY of the component parts which go to the making of an aeroplane are of such special design and construction that it is not surprising that certain firms find it worth their while to make a speciality of them, designing and laying down the necessary machinery, as well as training men to turn out the parts rapidly and economically. Such a firm is the Aircraft Accessories Co., Ltd., of Shaftesbury House, Ewell Road, Surbiton, who, at their works at Tolworth, Surrey, have, by way of an



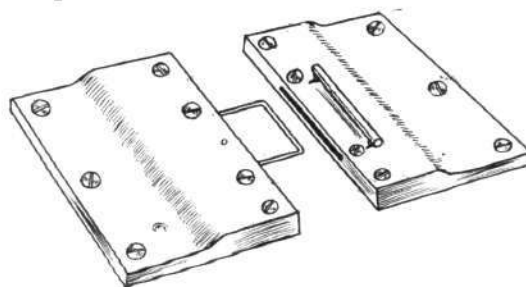
A set of Blériot-type shock absorbers made by Aircraft Accessories, Ltd.

example, unique facilities for making such details as shock absorbers.

In the accompanying illustration, three shock absorbers are seen of various sizes of the Blériot type, of which a large quantity have been manufactured, and it is sufficient testimony to the care taken in the selection of the material, and in the process of manufacture, that the British-made article has been pronounced by the firm to whom they were supplied, as being considerably superior to the original fitting as produced in France. The actual process of manufacture is an intricate one, requiring skilled labour and constant supervision. The

core is made up of a large number of strands of fine rubber, over which, while it is held at considerable tension, a covering made of specially-treated thread is woven on by a braiding machine. The making and fixing of the metal ends of the shock absorbers also necessitates a great amount of care, but it is satisfactory to learn that all the fittings produced by the firm have had no difficulty in passing the official tests.

Another speciality of the Aircraft Accessories Co. is a very strong cork composition, which, combining the qualities of lightness and considerable strength, is utilised for such purposes as distance pieces between the laths used in the planes of some machines to ensure that the



The A.A. belt-fastener.

section of the wing preserves its correct shape. Except to those firms who use it in this way, the material is not generally known, but when its qualities become more familiar to those responsible for the design and manufacture of aeroplanes, its application will doubtless be considerably extended.

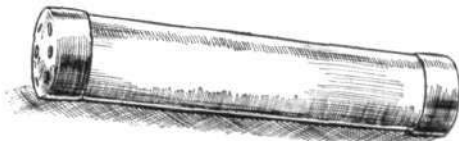
As one of the directors of the firm has had a very long experience in connection with various types of belting, a speciality is being made of this. There are many fittings and accessories in connection with flying machines, in which leather is used at present, where it is probable that it would be more advantageous to use a material similar

to woven belting. For safety belts and such purposes a light-weight waterproof belting of this type is manufactured, and belts made from it, besides being lighter, are more flexible, and therefore more comfortable to the wearer.

Two other productions of the Company are of particular interest to the pilot. One is a very ingenious safety belt clip, which, as can be gathered from the sketch, is not only simple in its construction, but is very strong and withal effective. It is but the work of an instant to close it, as the loop is simply pushed into the slot, and it automatically locks. It is then held fast, but however great the strain, it can be instantly released by a slight pull on the bar, which can be seen on the right-hand portion of the clip. This clip is being incorporated in a safety belt made of leather, or of the special webbing mentioned above, and finished in various styles. Apart from the advantages already described, this clip

has the merit that owing to its unobtrusiveness it can be placed in the front of the belt, where it is most convenient for the pilot to get at it in an emergency.

The other sketch shows a little hand warmer, consisting of a neat little metal case, with perforated ends. Inside

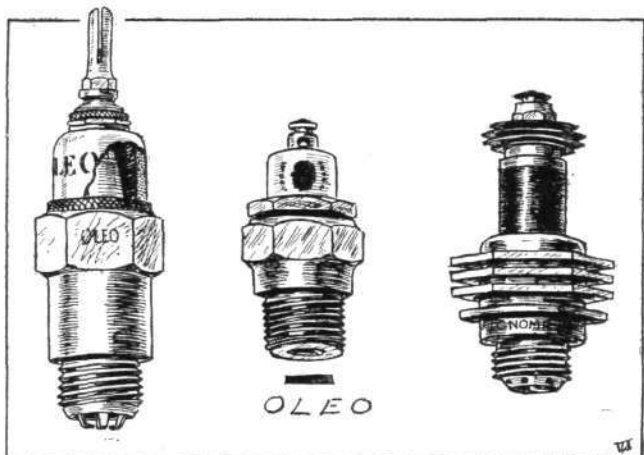


The A.A. hand warmer.

the case is arranged a slow-burning cartridge, and the heat generated is sufficient to keep the hands comfortable, even in the bitterest weather. This is a little novelty which should make an acceptable present for the flying officers at the front.

OLEO AVIATION PLUGS.

ONE of the earliest ignition firms, to cater specially for aviation work was Messrs. Leo Ripault and Co., of 64A, Poland Street, W., who placed on the market a small "Oleo" plug, specially designed for use on Gnome and other rotary engines. It gave splendid results, and there-



fore quickly became popular, a position which it still maintains. One of these plugs is seen in the central sketch, and as they are so well known it is not necessary to give more than a brief description. It is of simple construction, consisting of a steel body, a white porcelain one-piece insulator, a central electrode of nickel with a brass terminal-piece at one end, and a brass lock-nut holding the porcelain and electrode in the body. The "business"

end of the electrode is bent toward the edge of the opening formed in the base of the body, which thus forms the negative electrode. It is quite easy to adjust the length of the spark gap by bending the end of the nickel electrode nearer to or farther away from the body.

Another plug specially designed for Gnome engines is that shown on the right of our illustration. This is a somewhat larger plug, and its main feature consists in the provision for air-cooling by means of radiating fins formed on the body and head of the plug. The body is of brass, as is also the terminal-head, whilst the insulation is mica. The radiating fins are hexagon formed to serve the purpose of screwing the plug in or out of the engine. The other plug (No. 7), seen on the left, is for ordinary type engines, and has a deep brass body, two porcelain insulators and a nickel electrode. A clean space is left between the electrode and the porcelain for about half-way up the plug, this preventing sooting and oiling up. Fitting over the inner porcelain is a dome made of the same material, which is held down on to the body by a brass lock-nut. Asbestos is interposed between this dome and the body, so however hot the body may become there is little chance of the porcelain cracking. There are three spark-points of different gaps in order that the plug may adapt itself to varying engine speeds.

In spite of the fact that at the present time they are extremely busy, Messrs. Leo Ripault assure us that they are able to deal with urgent orders, as they have always a large stock of various plugs ready for immediate delivery.

AIRCRAFT AND THE WAR.

A CORRESPONDENT at Heyst of the *Maasbode* reported on Tuesday week that aviators of the Allied forces dropped three bombs there, causing unimportant damage.

According to travellers, who arrived in Amsterdam from Hamburg on the 9th, the Kaiser's visit to Wilhelmshaven was abruptly terminated by the receipt of a message from Cologne, to the effect that three enemy monoplanes were on their way to Wilhelmshaven.

The inspection of the fleet was immediately cancelled, the Kaiser satisfying himself with merely inspecting the guard of honour on the pier. It is stated that he returned to Berlin by special train twelve hours before he was expected.

A *Daily Telegraph*, correspondent, writing from Rotterdam on the 10th inst, said:—

"News reaches me of a very successful air raid by the Allies over Dusseldorf, resulting in the destruction by bombs and fire of a large quantity of war materials. The story illustrates both the failure of the Germans to preserve secrecy as to the whereabouts of their materials and the daring and skilfulness of the French aviators.

"Having learned by experience that the Allies' aviators, though failures at the art of killing non-combatants, are experts in finding and damaging lawful targets, the Germans became very nervous as to the safety of their war stores in the very important arsenal at Dusseldorf. Accordingly they erected a number of wooden buildings a considerable distance from the arsenal and giving no outward indication in position or construction of their real purpose. To these buildings they removed secretly from the

arsenal great quantities of war material, including ammunition, motor engines, tyres, and petrol. But shortly afterwards the secret was discovered. The sequel was a visit by aviators, who ignored the arsenal and concentrated their attention on the timber buildings. Several bombs were dropped, and the buildings and their valuable contents destroyed by the fire.

"This event, the news of which comes to me from a reliable source, is probably one reason for the recrudescence of the advice from German official quarters to the public not to talk in public about the war. The Mayor of Cologne has issued one such warning. It tells the people that so long as their interest in and discussions on the war and war news are confined to their own homes and in circles where everybody can be trusted, it is well; but, he adds: 'To talk about these things openly can bring a great shadow on the Fatherland. It is only for a single thoughtless word to be spoken about new formations of troops or the direction of transports, or to mention the names of high authorities in connection with the troops, for such things to reach the ears of the enemy and bring great difficulties and danger to the Fatherland.' The proclamation then proceeds to warn people not to discuss these things in railway trains or cafés, or anywhere where there are unknown people present, but to keep silent on all military matters."

A Central News message from Northern France on the 12th inst. reported:—

"An English aviator had an exciting duel with a German rival over Bruges yesterday. The pair got within pistol-shot of each other, thus preventing German artillery from firing at the Englishman. However, neither did the other any damage."

In the German "wireless" news sent out from Berlin on Saturday was the following:—

"Main Headquarters report to-day:—

"Of late repeated attempts have been made by French and English aviators to proceed as far as Brussels. The day before yesterday an English flying machine again approached the town, presumably with the intention of bombarding the German camp near Brussels. As soon as the Englishmen came into view a German Taube went up and a fierce fight commenced, which ended with the victory of the German flying machine. The English machine suddenly crashed to the ground in a straight line. The two occupants were dead.

"In the western theatre of the war enemy aviators again dropped bombs on the coast yesterday, by which bombs regrettable damage was caused to the civil population and their possessions, while from the military point of view we suffered only slight losses."

A *Daily Mail* correspondent, writing from Geneva on Sunday, said:—

"A thrilling aerial battle, in which a Zeppelin was pitted against three aeroplanes, was witnessed yesterday afternoon by thousands of German and French troops in the trenches a little to the south of Mulhouse. The Zeppelin, coming from the Black Forest, was sailing towards Belfort, when it met the aeroplanes, which were flying at a much lower level. The challenge to battle was accepted, and the fight lasted 40 minutes, both sides keeping up continuous firing. The aeroplanes manoeuvred to reach a higher level than the Zeppelin, and they had almost succeeded, when the Zeppelin retired northward at a great speed. Splendid skill was shown by all the pilots."

According to a message from Amsterdam last Saturday, the Dutch flag has been hoisted on the towers of some of the communes in the province of Zeeland, as an indication to show airmen when they are flying over neutral territory.

Information was received at The Hague on Sunday to the effect that an aeroplane, believed to be Belgian, flew over Cologne during the morning, and threw bombs over the military camp at Deutz. It avoided the German fire, which was partly directed from the cathedral tower, on which machine guns have been placed.

Writing on Sunday from Northern France to the *Daily Mail*, Mr. W. Beach Thomas said:—

"It is permissible since the official publication of the spacious air raid along the coast of Flanders to report some of the dashing and effective work of the British and Allied aircraft during recent weeks. A score of novel ventures, all unrecorded, perhaps never to be recorded, have been attempted, and in many cases effected, day after day.

"Men have circled round in order to mark the place of the gun that was continually firing at them. They have made expeditions

by night as well as by day, just by way of experiment, but, above all, they have shown persistence in the task before them. For example, an airman set out recently to drop bombs on certain definite objects within the German sphere. He reached the spot, and let fall five bombs, all of which missed their objective by a small margin. The airman returned, apologised for his failure, took up five more bombs, resumed his long journey, and this time hit two of the targets.

"Good observers are still rather more rare than good pilots; and it is remarkable that the observer is usually much more conscious of strain than the pilot. He has time to watch the bursting shrapnel and leisure to speculate on his chances. In all the war there is nothing perhaps quite so damaging to the nerves as the work of an aerial observer, who has to bring back accurate information. A battle in the air is a less trying ordeal.

"The German airmen are perhaps wise to avoid air battles whenever possible; and lately they have flown so high as both to be out of range of the guns and to make their own observation difficult. Three, for example, flew at an astonishing height over Calais on Friday last. They are safe at such altitude, but also harmless. A proper fear of attack from the air as well as from the land has driven them to this height. There can be no question that the Allies are now daily proving a marked superiority over the enemy in this department of the service.

"There is abundant evidence of the alarm created in the German ranks by our craft; and quite apart from the fruits of observation, which are great, they have begun to prove for the first time in the war that the aeroplane is capable of valuable offensive work on its own account. Each week fewer bombs are wasted and more hit the mark. It is well for those at home to remember that in the air as well as on the ground and the sea, for every deed that finds official or even less formal utterance there are scores which prepare the way for the larger issues."

In a message from Petrograd on Sunday, a *Daily Telegraph* correspondent, writing with regard to the investment of Przemyśl, said:—

"Austrian air scouts seldom get very far before they are met by Russian aviators, and chased back to the town."

In a message from Porrentruy (Switzerland) on Monday, a *Daily Mail* correspondent said:—

"French airmen have been particularly active in Alsace during the past few days, and have been out in such numbers from dawn till dusk that some country folk seeing them at a distance have mistaken them for early returning swallows. The tactics adopted by the French airmen have been to make reconnaissances in force over the whole of the German lines. Last Saturday they showed extraordinary audacity, and though fired on unceasingly they kept out of range, and all returned home safe and sound with a budget of important information.

"One party flew over Bartenheim and Habsheim, where bombs were dropped on the new aviation park. Others flew over Muelheim and Krotzingen, a third expedition went to Guebwiller and Colmar, and a fourth to Chalampre (Eichwald), the last station in Alsace on the banks of the Rhine, opposite Neuenburg, the town in Baden-Baden where important subterranean fortifications exist. They also passed over Homburg, where the castle is still the headquarters of the German 14th Army Corps. A report that the castle has been burnt is untrue."

With reference to the raid on Ostend, &c., on the 12th, the official account of which appears on page 123, a correspondent of the *Handelsblad* reported:—

"At Ostend the sheds of the naval station were severely damaged. The buildings of the Hotel Terminus sustained small damage. The bridge called De Smet de Mayer underwent considerable damage, and communication with the naval station has been interrupted. At Blankenberghe the station and rails were completely destroyed. At Zeebrugge the electricity works and coke factory been put out of action. A Zeppelin shed, with its contents, were completely destroyed."

According to a *Daily Mail* correspondent a number of damaged guns had arrived at Bruges, and were dispatched to Germany for repair.

A *Daily Mail* correspondent at Copenhagen reported the following on Wednesday:—

"It is reported from Esbjerg that a Zeppelin in flames fell this evening on the Danish island of Fanoe. The crew of fourteen, including two officers, was saved, and detained in custody by the Danish authorities. This morning an airship, probably the same one that has come to grief, visited the district of Thisted, in the north-west of Denmark."



Edited by V. E. JOHNSON, M.A.

Germany and Model Making.

THE two nations which have made the greatest advances in model aviation, especially in model flying, are undoubtedly Great Britain and the United States. In an all-round truly international contest we fully believe that Great Britain would come out top, but if there were a runner-up it would undoubtedly be the Americans.

France cannot be said to have taken up the question of model flying at all seriously, nor has Germany, but latterly, *i.e.*, for a few months prior to the war, there were very clear indications that Germany, as exemplified by her scientific toy makers, was turning her attention to the subject, not as a means of sport (the Germans are not a sporting nation), nor as a means of scientific study, but as a commercial enterprise. Model aeroplane making may not appear to offer very much scope for money-making; this is a matter which depends on the demand, but if you can supply the whole world, or the greater portion of it, the question wears a different aspect, and it can be seen, as a matter of common sense, that it at once becomes worth while to lay down special plant at an initial expense of even several hundred pounds, and turn the article out more or less like shelling peas.

The Bing Autoplan—the original Autoplan plant and model—is an example of this.

The model, more especially the wings and chassis, falls a long way short of British design, but the engine (derived from an English design) and the container, which have been already fully described in these columns, are well constructed, and as yet we have nothing like them (at anything like the price) of British manufacture.

It is quite a mistake to suppose that interest in model aeroplanes is dead or even declining; it is naturally, like many other things, very much in abeyance during the war. At the beginning of last year and during the spring and early summer we know of more than one dealer in model aeronautical goods who were doing more business than when the first boom was on. A very large trade in scientific toys and models is done in this country and the Colonies, to say nothing of people like the Chinese, keen "kitists" for ages, to whom model aeroplanes especially appeal. It is only since the war and the supply has been stopped that it has been possible for anyone not actually in the trade to realise the huge proportion of this business that was in German (and a much smaller proportion) in Austrian hands. The model aeroplane trade, which is far less adaptable to the turning-out-like-shelling-peas-process, was the smallest. But take the case of small wireless outfits, electric motors, &c., &c., and model clockwork scientific toys of all kinds, especially from a shilling to half-a-guinea, and even considerably beyond—this was almost entirely in German hands. If we examine German work, and do so, or at any rate try to do so, without any bias, we are compelled to admit that it is very clever, well designed and very thorough, and beautifully finished. It has its faults, just like the Bing Autoplan has, and it has also a lack of *initial* originality. The real originality consists in the adapting of the earlier ideas of other people, of other nations such as the French and English, so as to make them a commercial

success. Especially do we see this in the form of excellently designed castings and machine stampings, &c., by which the article can be quickly and cheaply reproduced. It is absolutely impossible for any hand-made article to compete against them in the commercial world—because it comes out at anything from three to five times the price. In the case of the illustration the machine-made part is far superior to that which must of necessity be made by hand.

A good *complete* model aeroplane can never be a cheap article of commerce; much must be hand made, and in this trade British model aeroplane makers should certainly hold their own, even on their own lines. It is, of course, also true in other model work that the finest models and best designs are not German: locomotives and yachts, for example. For such fine work in any way to deteriorate would be a thousand pities, and we are quite sure such a thing will not happen; but there are two sides to every question, and we fail to understand why the other side of the question should be so neglected here in England, or why there should be such a *great* difference in the price of the two articles. Cheaper labour is certainly not anything like a complete answer to the question; it appears to be more a question of the initial expense to be met in the laying down of a certain amount of producing plant and insufficient attention to the designing of patterns which are especially suitable to machine reproduction. It is also essential that the production be large; a mere local trade is useless; you must, to use a common expression, supply the world. This is a matter of enterprise. We shall, no doubt, be told the game is not worth the candle. Surely any game is worth the candle which brings grist to the mill, especially in the hard times and lean years which may be upon us later.

The Scientifically-Designed Model.

"I observe," writes Mr. R. Rodger, "in a recent number of FLIGHT, that, in referring to Mr. Kilshaw's letter on the above, you invite other readers to give their opinion. My own views on the subject are as follows:—

1. That the span exceed the overall length.
2. That the aerofoils be double surfaced.
3. That the aspect ratio of the aerofoils be 5.
4. That (a) when the elevator is behind the main planes the angle of incidence of the main planes exceed that of the elevator; (b) when the elevator is in front of the main planes the angle of incidence of the main planes be less than that of the elevator.
5. That the main planes have a dihedral angle.
6. That all fins extend both above and below the centre of thrust.
7. That the model be engine-driven.
8. That the pitch of the screws be at least 1.5 times the diameter, and that the diameter does not depend solely upon the span of the model, but upon general dimensions and the weight to be supported combined.
9. That sufficient clearance be given to the screw. Not only should the tips of the propeller be clear of the ground, but the layer of disturbed air which, I am convinced, is caused and carried round by the tips of the propeller blades should be well above *terra firma*. [A well-designed propeller sucks air inwards, and drives or tends to drive it backwards in a direction approximately at right angles to the plane of rotation.]

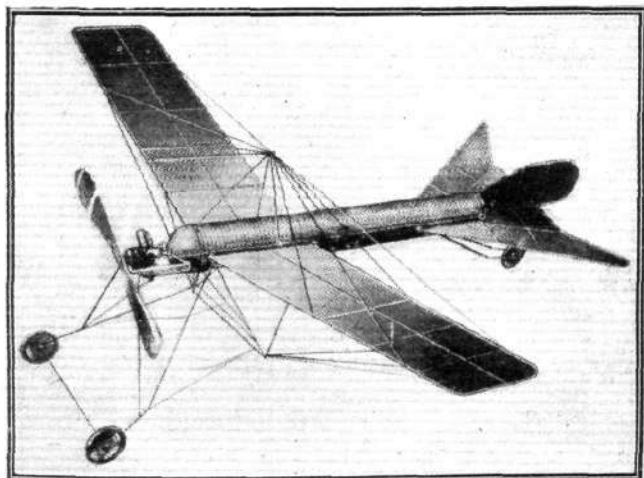
Mr. S. C. Shepley-Part writes as follows:—"I read with interest that you are desirous of having the opinions of readers of FLIGHT regarding a suitable definition for the "Scientific Model." I append what I personally consider to be suitable definitions:—

1. A model bearing a general resemblance to a full-sized machine and built on a system which it would be possible to also use on the same; this eliminates A frames and single surface wire plane frame models.
2. A scale model for tests in a wind tunnel.
3. A model, scale or otherwise, built for the purpose of testing some particular piece of mechanism.
4. Models for testing inherent stability or other scientific principles."

[We shall be pleased to have other opinions on this all-important subject.]

A Letter from America.

Mr. W. P. Dean (131, Frontenac Boulevard, Detroit, Michigan, U.S.A.) sends us the following interesting communication:—"I have received a letter from Mr. Harry Schultz (Model Editor of *American Aeronautics*) thanking me for the very kind reports I had



The original Bing Autoplan plant and model.

sent you of their spring contests, and which reports you kindly published in FLIGHT in answer to my request. Mr. Schultz states that he intends to write you a very complete article upon their model exploits, and send it to you for publication as soon as he can find time. When you do receive it I feel sure it will be of interest, and be appreciated by your readers. Detroit is about the only busy city in the States at the present time, chiefly on account of automobiles and motor cycles for war purposes. Kind regards, and every good wish for the success of your model flying enthusiasts."

[We shall be pleased to receive Mr. Schultz's report. We know a good deal of excellent model flying has been done in the United States, and anything in the nature of a complete synopsis would be most interesting and valuable.]

The Kite and Model Aeroplane Association.

Mr. H. H. Bedford writes asking if we could please tell him whether the K. and M.A.A. is defunct, as he has written to Mr. Lyche and has had no reply.

We do not necessarily see the connection here between cause and effect. Mr. Bedford's letter may have miscarried, or Mr. Lyche may be so unfortunate as to be unwell.

Personally we know no more about the affairs of the Association than our correspondent. Mr. Akehurst is, we understand, serving with the colours, and matters appear to be "in abeyance" during

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CORRESPONDENCE.

The Acquisition of Enemy Patent Rights.

[1897] A very interesting aspect of the relative trades of the United Kingdom and enemy countries is offered by the statistics of firms or individuals to whom British patents have been granted in recent years. In 1911, for instance, out of the 17,164 fully granted British patents of that year, it is surprising to see that 2,886 were granted to residents of Germany, and 325 to residents of Austria. Nearly a fifth of the patents of the United Kingdom have in recent years been passing into the hands of enemies.

In many cases the articles or processes controlled by these enemy patents are manufactured or carried on mainly or exclusively abroad, the British patents being used merely for the purpose of closing the English market to persons other than the patentee.

In 1907 a strenuous effort was made to compel foreigners to manufacture in this country the articles protected by their British patents. As you are aware, the law was to the effect that anyone could apply for the revocation of the patent on the ground that the patented articles were being manufactured mainly or exclusively abroad. This effort has not by any means given the results which had been desired. It is surprising to find that throughout the four years next subsequent to the commencement of this law, i.e., until December, 1911, only 81 applications for revocation were lodged. Out of these, 42 applications were abandoned or dropped owing to expiry of the patents. On the whole, during the period referred to, there were only some five patents per annum actually revoked for non-compliance with the law.

Upon the commencement of war, new and practically unprecedented conditions arose. It became substantially a physical impossibility for the German patentees to continue to import their patented articles into this country, and in the large number of cases in which no British manufacture had been commenced, British subjects were wholly unable to obtain these articles, and they were furthermore unable to manufacture them, as the patents still in fact existed and remained the property of the enemy proprietors.

An emergency law was, as you are aware, very soon introduced, the result of which now is that any British manufacturer can apply to the Board of Trade for the right to manufacture under any enemy patent. The right is granted in the form of a personal licence, and it is now definitely established that the British manufacturer will not be deprived of his right to manufacture upon the termination of hostilities.

That the emergency law is of far greater value than the 1907 law, is proved by the fact that throughout the past few months of war, and notwithstanding the adverse circumstances existing as a result of the war, there have been 248 applications for this right to manufacture as compared with the 81 applications which were made throughout the four years following the introduction of the 1907 law.

An obvious reason of the enhanced value of the emergency law is that it confers a certain degree of monopoly in favour of the one applying for the right to manufacture. The entire revocation of the patent, as in the practice under the 1907 law, has the disadvantage that the applicant for revocation, after having gone to the trouble and expense of his application, is, when he succeeds, placed only upon the same footing as all other manufacturers in the country. Such other manufacturers are vested with an equal right to manufacture without having contributed to the trouble and expense involved in nullifying the patent.

the war. No council meeting has been held for a very long time. If Mr. Lyche cares to send us any communication we shall be pleased to receive it, and to publish anything to which there may be no objection.

The Ascham College Aero Club.

We have received the following account of the doings of the above club from the Vice-President (Mr. Bernard A. J. Mayo, Ascham College, Clacton-on-Sea): "The club was started by a friend of mine and myself about a year and a half ago. When we commenced we only used tractor machines, which after a time became very successful. The chief records with these machines are as follows:—Longest distance in one flight, 135 yds.; three successive flights, 340 yds. Just lately we have tried 'pusher' machines, and I am pleased to say they have been very successful. My friend holds the record with his pusher machine; he has also accomplished a figure of 8 without any automatic steering; his longest flight to date is 270 yds. I have no photos., or I should be pleased to send you some."

We are much obliged to our young friend for his interesting letter, but is his friend too shy to have his name published? also if he accomplished a figure of 8 without automatic steering, how did he do it? Since you have no photos., perhaps you can kindly send a few sketches, which will do just as well.

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Having, therefore, in view the merits and advantages of the emergency law, and having also in view the large numbers of valuable enemy patents which are in our midst, it appears eminently desirable that no time should be lost in taking all possible advantage of the facilities which are offered, as while the benefits conferred during war will continue to exist after the expiration of hostilities, the opportunity of obtaining them is of duration substantially limited to the period of war.

LEWIS WM. GOOLD, F.C.I.P.A.

5, Corporation Street, Birmingham, February 9th, 1915.

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A Change of Name.

It is announced that for the future the business which has been carried on at Shoreham by the Cedric Lee Company will be known as the South Coast Aircraft Works. Except for this alteration in name there is no change, and the business will be under the same management and control as hitherto.

Index and Title Page for Vol. VI.

THE 8-page Index for Vol. VI of FLIGHT (January to December, 1914) is now ready, and can be had from the publishers, 44, St. Martin's Lane, London, W.C., price 2d. (3½d. post free). After February 21st the price will be 6d.

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Aeronautical Patents Published.

Applied for in 1913.

Published February 18th, 1915.

26,897. J. MACINANTE. Propulsion of aerial vehicles.

Applied for in 1914.

Published February 18th, 1915.

23,037. W. BEAN. Dirigible balloons.
21,898. — TOROK. Dirigible airships.

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